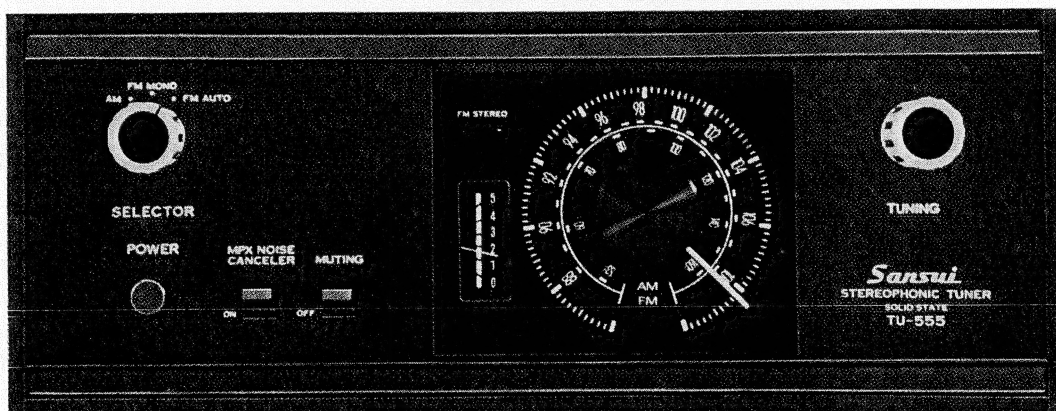


# OPERATING INSTRUCTIONS & SERVICE MANUAL

SOLID-STATE AM/FM STEREO TUNER

## SANSUI TU-555



**Sansui**

SANSUI ELECTRIC COMPANY LIMITED

Congratulations, you are now the owner of the new Sansui TU-555 FET AM-FM Stereo Tuner, an attractive and compact receiver built for exceptional performance by the world's foremost audio-only specialist. Designed especially for FM enthusiasts, the TU-555 will pull in an increasing number of FM stations more clearly in either strong signal areas or fringe locations. Its highly sensitive FET front end shows a new degree of selectivity by permitting weak signals to be tuned without being blanketed by adjacent strong signals. The functional black face front panel design will be an outstanding component in any audio system. Finally, the extreme care used in fabricating the TU-555 promises the extra values of added reliability, higher performance and longer life.

This manual has been prepared to guide you in operating and caring for the TU-555 correctly. Please read it carefully before operating the tuner and retain it for future reference.

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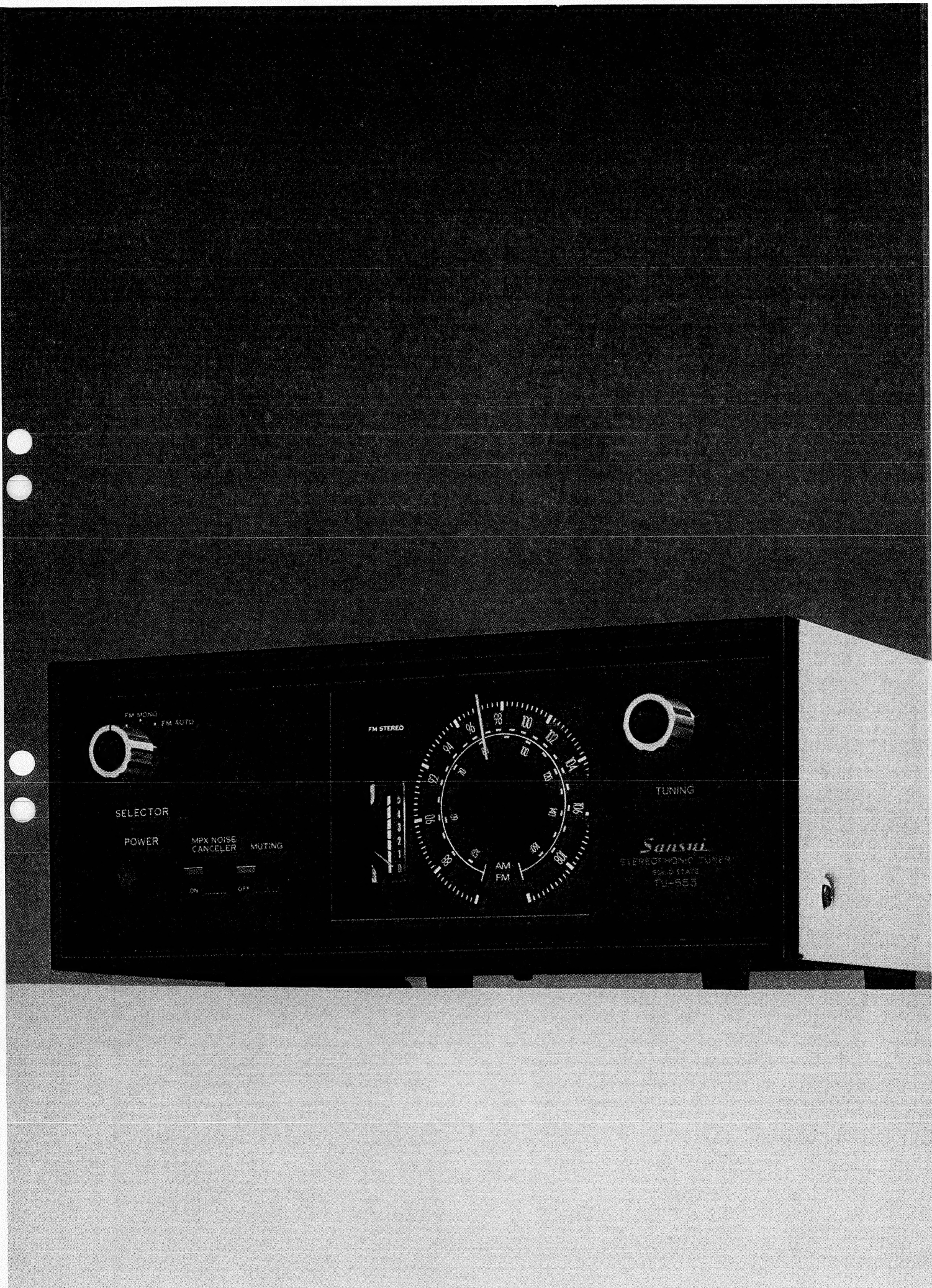
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### OPERATING INSTRUCTIONS

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### SERVICE MANUAL

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# SWITCHES AND CONTROLS

## Selector Switch

AM—Use this position for all AM programs.

FM MONO—Use this position for all FM monophonic programs.

FM AUTO—Use this position for automatic FM stereo/mono switching.

## MPX Noise Canceler Switch

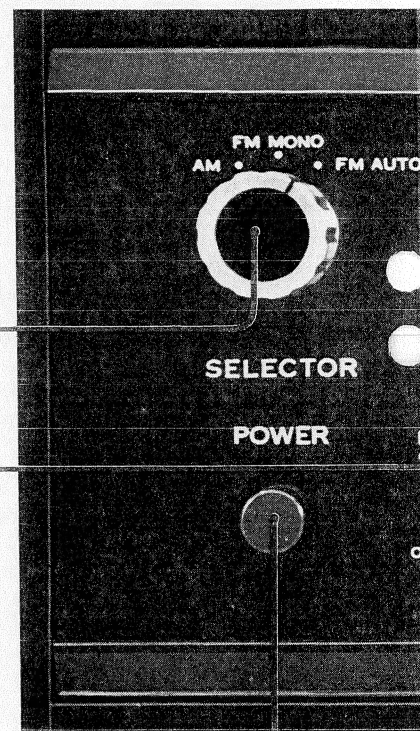
This switch is used to eliminate annoying noise on FM multiplex programs transmitted by distant or weak stations without weakening the treble tones in the music being played. When this switch is on, the TU-555's stereo separation may be slightly reduced. Unless such noise is heard, this switch should not be used.

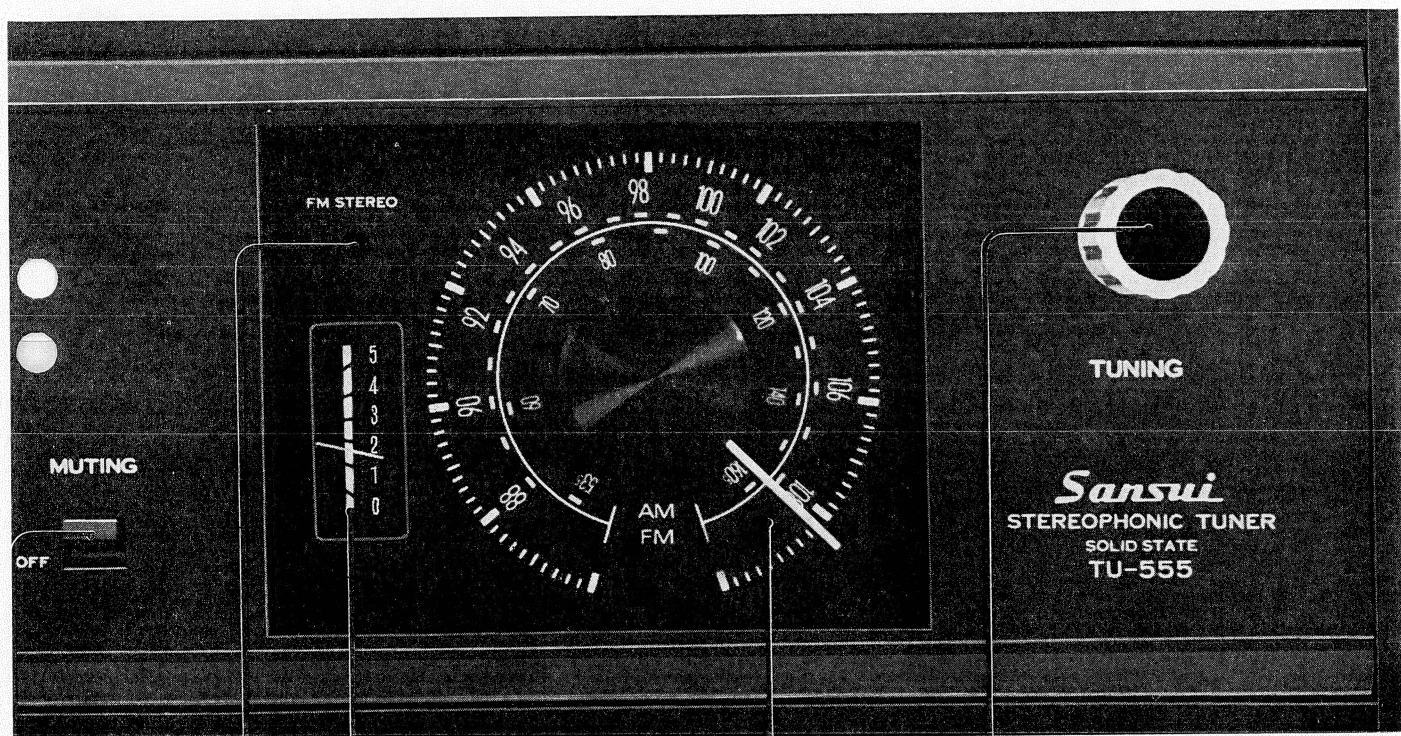
## Power Switch

Push this switch to turn the power on; push again to turn the power off.

## Muting Switch

This switch is used to eliminate interstation noise for quiet FM station selection. When this switch is on, weak or distant stations may also be suppressed. To tune weak or distant stations, keep this switch in the OFF position.





### FM Stereo Indicator

The stereo indicator light glows when a stereo program is received or when the dial pointer crosses a station making an FM stereo broadcast. During mono reception, it remains unlit.

### Tuning Meter

This meter aids in pinpointing either AM or FM station; when the needle swings to the maximum upward position (but not necessarily to "5"), the station is correctly tuned.

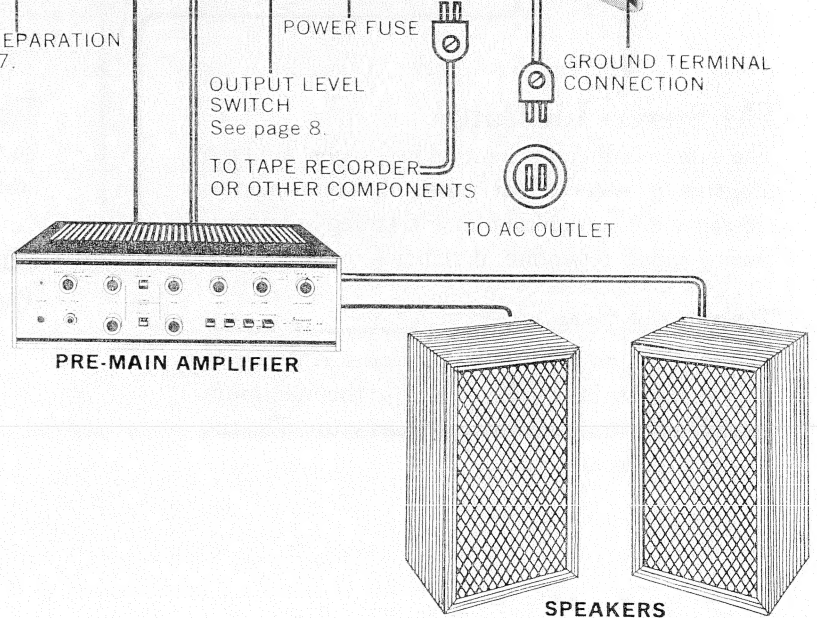
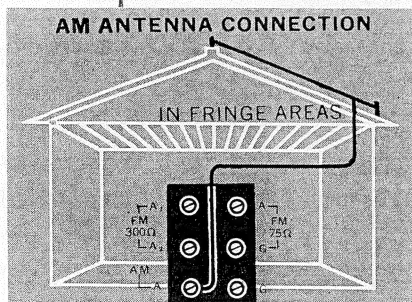
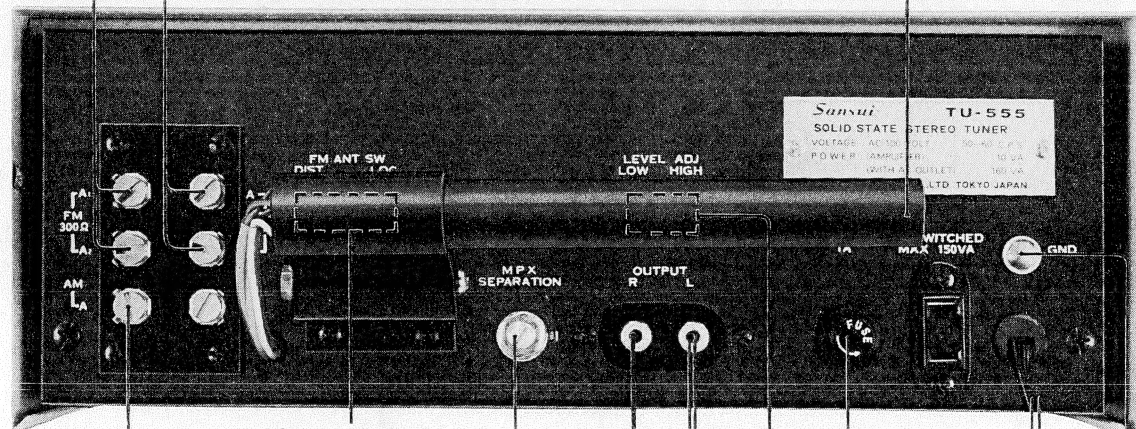
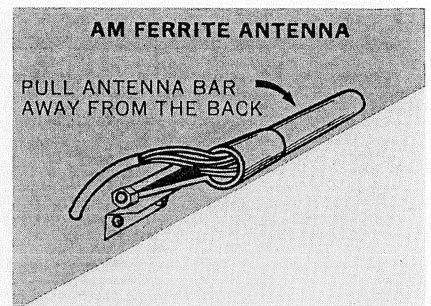
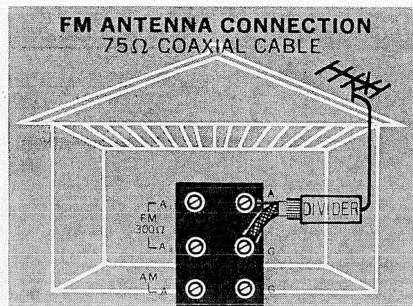
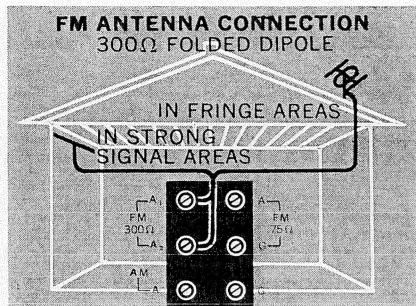
### Tuning Knob

Use this knob to select your desired AM or FM station by watching the tuning meter.

### Dial Scales

The outer dial scale is for FM, the inner for AM.

# CONNECTION



## ANTENNA CONNECTION

The quality of reception that can be expected from the TU-555 depends largely on the correct positioning and use of antennas. To pull in more stations more clearly, the following procedures are recommended:

### Built-in AM Ferrite Antenna

This highly sensitive antenna, located on the rear panel of the tuner, is usually adequate for AM reception in many areas. To use, pull it down and away from the back of the tuner until the best reception is obtained.

### Outdoor AM Antenna

In ferroconcrete buildings or in fringe areas, the built-in ferrite antenna may be inadequate for reception of weak or distant stations. An outdoor antenna then becomes necessary. This can be accomplished by connecting the PVC wire supplied with the set to the antenna terminal marked AM-A on the rear panel. Run this wire to an antenna that has been placed outside a window or mounted on a roof. At the same time, the unit should be grounded. Position the outdoor antenna where reception is strongest while actually receiving a broadcast. And, for reasons of safety, be sure to attach a lightning arrester to the outdoor antenna.

### Indoor FM Antenna

In urban or strong signal areas, satisfactory FM reception can be obtained by using the folded dipole antenna (300 ohm) supplied with the TU-555. Connect the two leads from the dipole to the terminals marked FM 300Ω A<sub>1</sub> and A<sub>2</sub> on the rear panel and tack the dipole up on the wall in the form a T. Be sure to position the dipole for best signal reception before the antenna is permanently tacked up on the wall.

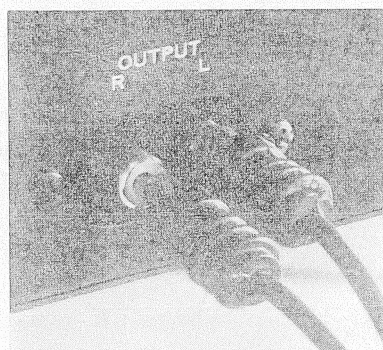
### Outdoor FM Antennas

In ferroconcrete buildings or in fringe areas, the indoor dipole antenna may be inadequate for recep-

tion of weak or distant FM stations. An outdoor antenna designed specifically for FM should then be installed.

Either a balanced 300 ohm or unbalanced 75 ohm antenna can be used with the TU-555. If the 300 ohm twin-lead is used, connect it to the terminals marked FM 300Ω A<sub>1</sub> and A<sub>2</sub> on the rear panel just like the indoor dipole antenna connection. If the 75 ohm coaxial cable is used, connect the center conductor to the FM 75Ω terminal and the shielding wire to the G terminal.

**Note:** FM sensitivity cannot be raised simply by lengthening the antenna. Adjust the antenna's height and direction while actually listening to a broadcast for best reception.



## AMPLIFIER CONNECTION

To connect a control amplifier to the TU-555, use the two cables supplied with the tuner. Connect the R output on the rear panel of the tuner to the right channel input marked TUNER or AUX on the rear of the amplifier. The left channel connection are made between the L output of the tuner and the left TUNER or AUX input of the amplifier.

# OPERATION MAINTENANCE

## To Listen to an AM Program

1. Set the SELECTOR switch to the AM position.
2. Select your desired station on the AM band of the tuning dial with the TUNING knob. The station is properly tuned when the needle in the tuning meter swings to the maximum upward position.

**Note:** While the scale of the tuning meter is graduated from 1 to 5, the needle need not move all the way to "5" to indicate optimum reception.

## To Listen to a FM Program

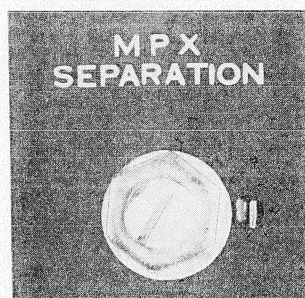
1. Set the SELECTOR switch to the FM AUTO position. If too much noise or interference accompanies a stereo program with the SELECTOR switch in the FM AUTO position, turn it to the FM MONO position and listen to the program monophonically.
2. Set the MUTING switch to the ON position.
3. Select your desired position on the FM band of the tuning dial with the TUNING knob. The station is properly tuned when the needle in the tuning meter swings to the maximum upward position.
4. Set the MPX NOISE CANCELER to the ON position if annoying noise accompanies the FM stereo program.
5. For FM stereo reception, the mode switch of the control amplifier must be in the STEREO position.

For your convenience, adjust the amplifier's rear level control to the output of a record player or other components connected to the amplifier. This level control saves readjustment of the volume control of the amplifier when the programs are switched between tuner and components.

## MAINTENANCE

### FM MPX Separation

If the channel separation during the FM stereo reception becomes inadequate or excessive, turn the screw marked MPX SEPARATION on the rear panel of the tuner for natural proportions. Never attempt to turn it without reason as it has been properly adjusted prior to leaving our factory.



### Local-Distant Antenna Switch

This switch is used to attenuate very strong signals to avoid overloading. In strong signal areas, this switch should be set to LOC. In other locations, this switch should be set to DIST.

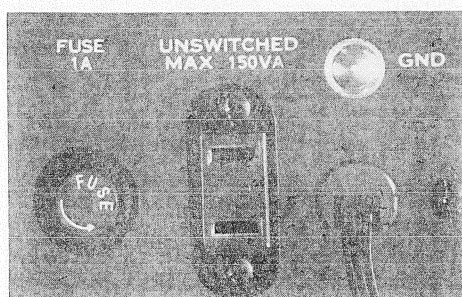


### Ventilation

Adequate air circulation is absolutely essential for proper operation. The enclosure should be open at the rear, and should provide at least 1½ in. of free space above the TU-555 for air circulation. Nothing must be placed directly on the top of the tuner.

## AC Outlet

One AC outlet on the rear panel is used to serve as power supply source for a tape recorder or other components. This outlet has a maximum rating of 150 VA.

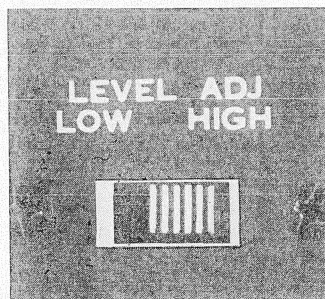


## Power Fuse

Should the tuner fail to operate when the POWER switch is pushed on, the probable cause is either a power stoppage or a blown fuse. To check, remove the TU-555's power cord from its outlet, turn the fuse holder on the rear panel counterclockwise, and remove the fuse. If it is blown, replace it with a new glass-tubed fuse of the same capacity (1 ampere) after determining and eliminating the trouble source that caused the fuse to blow. Using wire or a fuse of a different capacity as a stop-gap measure is dangerous and should be avoided.

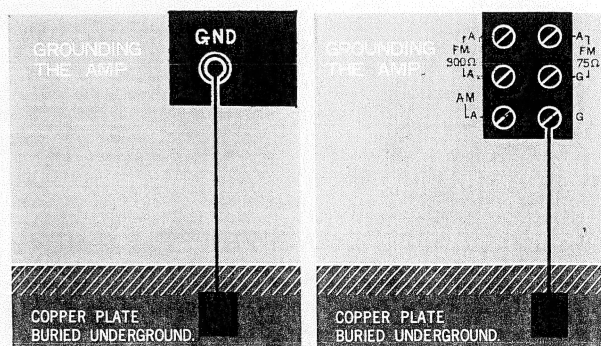
## Output Level Switch

This switch is used to adjust the output level of FM and AM programs. To raise the output, set this switch to HIGH; to reduce, set it to LOW. If this switch is adjusted to the output of a record player or other components connected to the control amplifier, it saves readjustment of the volume control of the amplifier when the programs are switched between tuner and components.



## Grounding

Connect a vinyl or enameled wire from the terminal screw marked GND or AM-G to a copper plate buried underground or to a water pipe. Whenever an outdoor AM antenna is used, grounding becomes necessary.



# SPECIFICATIONS CHARACTERISTICS

## FM SECTION

FREQUENCY RANGE: from 88 to 108 MHz

SENSITIVITY: 2.0 $\mu$ V (20dB quieting)  
2.5 $\mu$ V (IHF)

HARMONIC DISTORTION: less than 0.8%

SIGNAL TO NOISE RATIO: better than 60dB

SELECTIVITY: better than 45dB

IMAGE FREQUENCY REJECTION: better than 50dB

IF REJECTION: better than 60dB

CAPTURE RATIO: 3.0dB (IHF)

SPURIOUS RESPONSE REJECTION: better than 60dB

FM STEREO SEPARATION: better than 35dB

SPURIOUS RADIATION: less than 34dB

LOCAL/DISTANT SWITCH: Local; attenuate  
20dB, Distant;  
direct.

## AM SECTION

FREQUENCY RANGE: from 535 to 1,605 kHz

SENSITIVITY: 20 $\mu$ V at 1,000 kHz

IMAGE FREQUENCY REJECTION: better than 40dB at 1,000 kHz

IF REJECTION: better than 60dB at 1,000 kHz

SELECTIVITY: better than 20dB at 1,000 kHz

## AUDIO OUTPUT

RATED OUTPUT VOLTAGE: greater than 1.5V

LOAD IMPEDANCE: over 10 k ohms

## INDICATORS

Signal Strength (meter)

Stereo Indicator (lamp)

## OTHER SPECIAL FEATURES

FM Antenna input 300 ohms balanced/75 ohms unbalanced.

AM Ferrite bar antenna. FM Muting. MPX Noise canceler,

Output Adjustor. Meter Tuning. Heavy Fly-wheel Tuning.

## SEMICONDUCTORS

TRANSISTOR AND FET: 20

DIODE, VARISTOR AND ZENER DIODE: 21

## POWER REQUIREMENTS

POWER VOLTAGE: 117, 220~240V, 50 and 60Hz

POWER CONSUMPTION: 10VA

## DIMENSIONS (without knobs, rubber stands and bar antenna)

WIDTH: 11 $\frac{1}{2}$ "

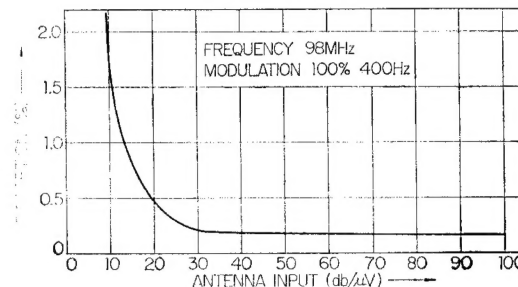
HIGHT: 4 $\frac{3}{8}$ "

DEPTH: 10 $\frac{1}{2}$ "

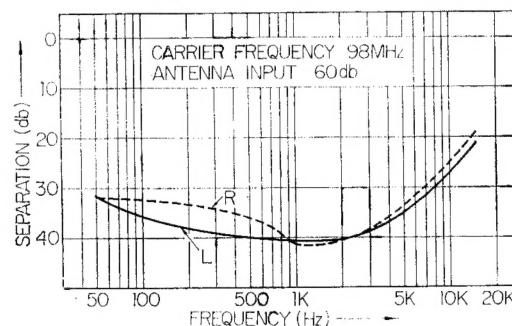
WEIGHT: 8 $\frac{5}{8}$  lbs

\* All rights reserve specifications subject to change without notice

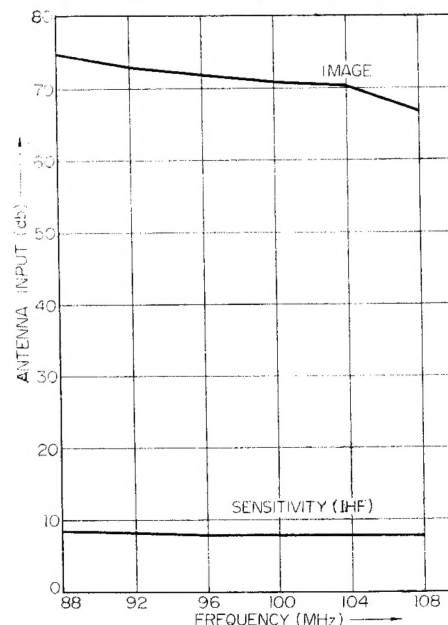
## FM DISTORTIONS



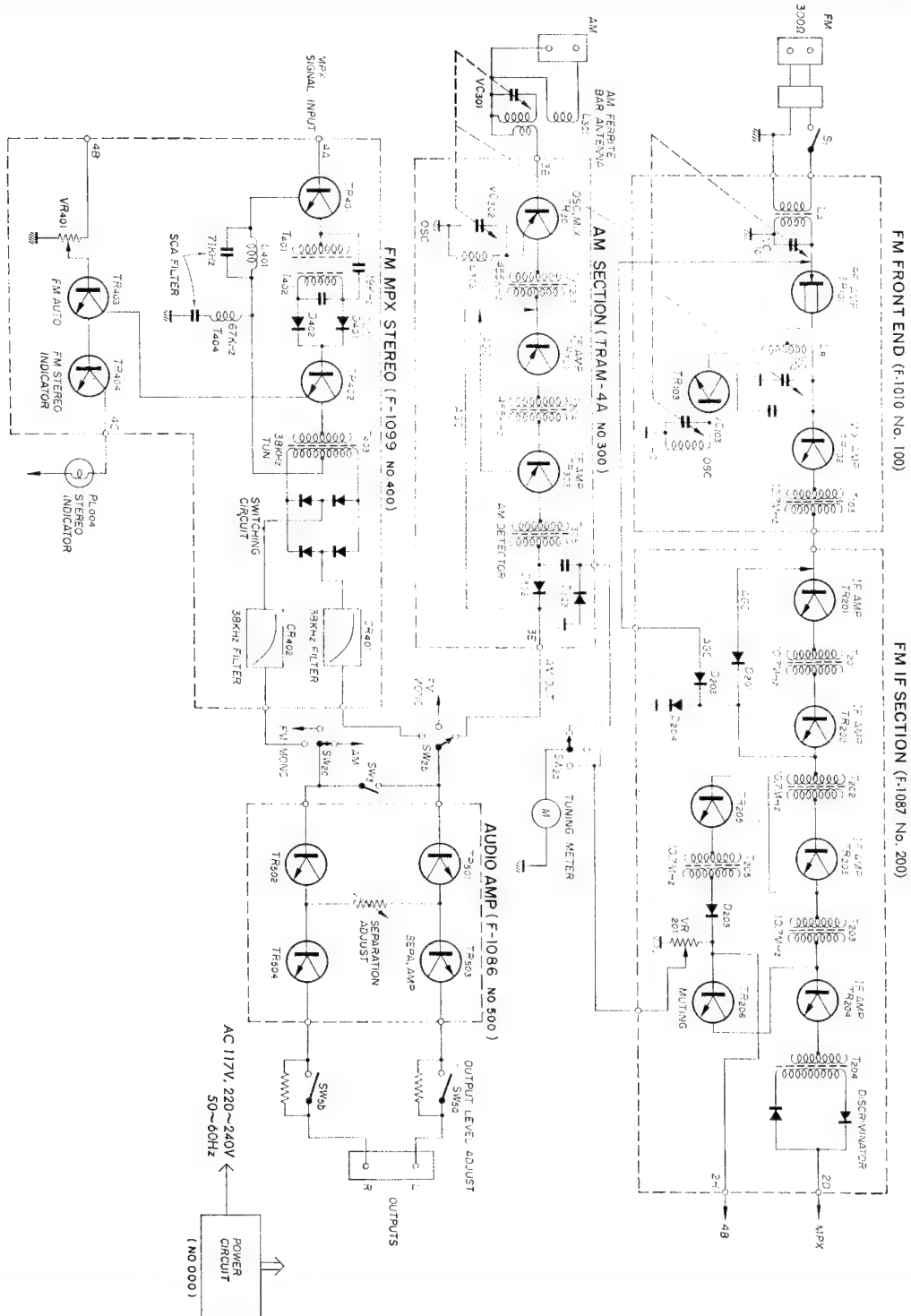
## FM MPX SEPARATION



## FM SENSITIVITY (IHF) & IMAGE RATIO



## BLOCK DIAGRAM



# GENERAL TROUBLESHOOTING CHART

In some instances, the amplifier which is operating satisfactorily develops hum or noise as listed on this page. In this case, eliminate the trouble source as indicated in the column under WHAT TO DO.

If you are confronted with a trouble not covered here or if you have any questions concerning the operation and maintenance of this amplifier, please contact our Customer Service Department.

If your AM and/or FM stereo listening isn't all you'd expected, it is in many cases that the tuner is not at fault. The trouble may be attributed to the following:

1. Incorrect component connection or loose terminal contact;

2. Incorrect or improper operation of tuner and/or other components;

3. Improper location of components;

4. Other component or components defective.

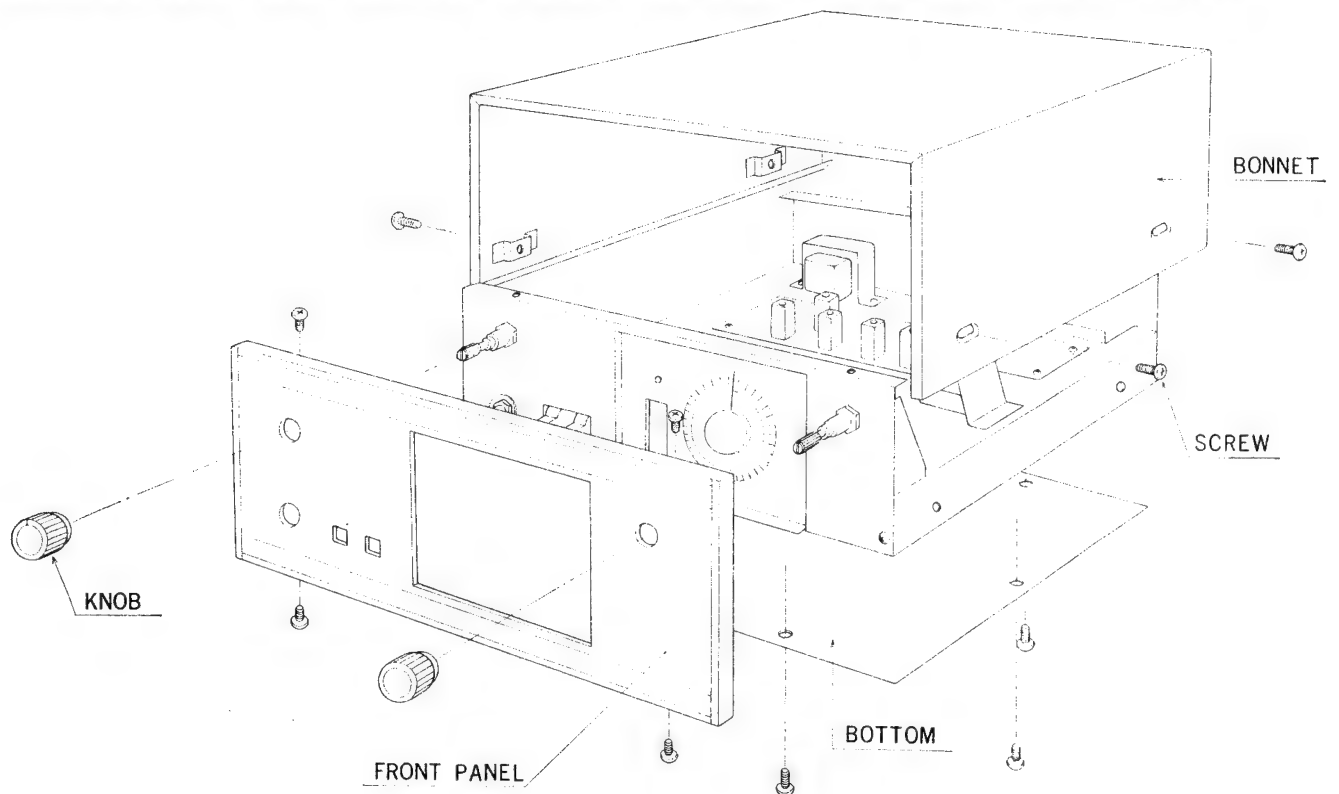
Other probable causes are listed below:

| PROGRAM                  | SYMPTOM  | PROBABLE CAUSE   | WHAT TO DO   |
|--------------------------|--|--|--|
| AM, FM mono or FM stereo | A. Constant or intermittent noise heard at times or in a certain area                | <ul style="list-style-type: none"> <li>* Discharge or oscillation caused by electrical appliances, such as fluorescent lamp, TV set, D.C. motor, rectifier and oscillator</li> <li>* Natural phenomena, such as atmospherics, statics, strays and thunderbolt</li> <li>* Insufficient antenna input due to thick reinforced concrete wall of a building or long distance from the station</li> <li>* Wave interference from other electrical appliances</li> </ul> | <ul style="list-style-type: none"> <li>* Attach a noise limiter to the electrical appliance that causes the noise, or attach it to the power source of the amplifier.</li> <li>* Install an outdoor antenna and ground the amplifier to raise the signal-to-noise ratio.</li> <li>* Reverse the power cord plug-receptacle connections.</li> <li>* If the noise occurs at a certain frequency, attach a wave trap to the ANT. input.</li> <li>* Keep the set in proper distance from other electrical appliances.</li> </ul> |
|                          | B. The needle of the tuning meter does not move well.                                | The movement of the needle is one thing, the sensitivity of the amplifier is another.  | Turn the set for maximum signal strength.  |
|                          | C. The zero point of the meter diverges much.  | Regional difference in field intensity   | The unit is not at fault.  |
| AM                       | A. Noise heard at a particular time of a day, in a certain area or over part of dial | This results from the nature of AM broadcast.  | <ul style="list-style-type: none"> <li>* Install the antenna for maximum antenna efficiency. See page 6.</li> <li>* In some cases, the noise can be eliminated by grounding the amplifier or reversing the power cord plug-receptacle connections.</li> </ul>  |
|                          | B. High-frequency noise  | * Adjacent-channel interference or beat interference   | * Although such noise cannot be eliminated it is advisable to switch on the noise filter of the amplifier.   |

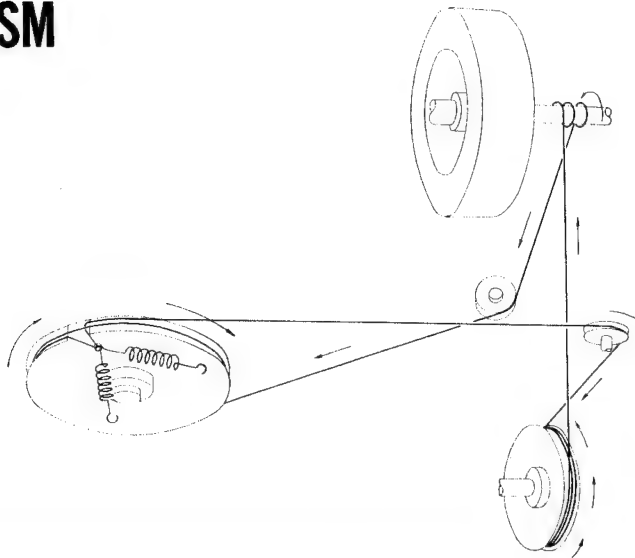
| PROGRAM     | SYMPTOM  | PROBABLE CAUSE  | WHAT TO DO  |
|-------------|--|---|---|
| (Continued) |  | * TV set too close to the audio system  | * Keep the TV set in proper distance from the audio system.   |
| FM          | A. Noisy   | * Poor noise limiter effect or to low S/N ratio due to insufficient antenna input   | * Install the antenna (attached) for maximum signal strength.<br>* If this does not prove effective, use an outdoor antenna designed exclusively for FM. When you use a TV antenna for both TV and FM with the help of a divider, make sure the TV reception is not affected.<br>* Excessive long antenna may rather cause a noise. |
|             | Note: FM reception is affected considerably by the conditions of transmission by stations: power and antenna efficiency. As a result, you may receive one station quite well while having difficulty in receiving another station. |   |   |
|             | B. Noise heard like "scratch noise"  | * Ignition noise caused by the starting of an automobile engine   | * Install the antenna and its lead-in wire in proper distance from the road or raise the antenna input as described above.  |
|             | C. Distortion or no sound during the reception   | * Drift of tuning resulted from the nature of FM  | * Retune the signal with the tuning knob.   |
|             | D. Tuning noise between stations   | This noise results from the nature of the FM reception. As the station signal becomes weak, the noise limiter effect is also decreased. The amplification of the limiter, in turn, is enlarged and thus a big noise is generated. | * Turn the MUTING switch on.  |
| FM stereo   | A. Noise heard during FM-MPX reception while not heard during FM mono reception  | * The service area of the FM-MPX broadcast is only half as much as that of the FM mono broadcast.   | * Install the antenna for maximum antenna input.<br>* Switch on the NOISE CANCELER.   |
|             | B. Clearness of channel separation is decreased during the reception.  | * Excess heat   | * Circulation of air is important to the amplifier. Make sure that air can flow underneath.   |
|             | C. The stereo indicator goes on and off.   | * Interference  | * The indicator is not at fault.<br>* Readjust VR <sub>401</sub> .  |
|             | D. The stereo indicator goes on and off even though a stereo station is not received.  | * Interference  | * The indicator is not at fault.<br>* Readjust VR <sub>401</sub> .  |
|             | E. The BALANCE control of the amplifier used is not at the midpoint when equal sound comes from left and right channels  | * The BALANCE control should not be always set to the midpoint  | * Set the control to the position where equal sound comes from both channels<br>* Check for unequal program loudness  |

# DISASSEMBLY PROCEDURE

## REMOVING THE FRONT PANEL, BONNET AND BOTTOM PLATE



## DIAL MECHANISM

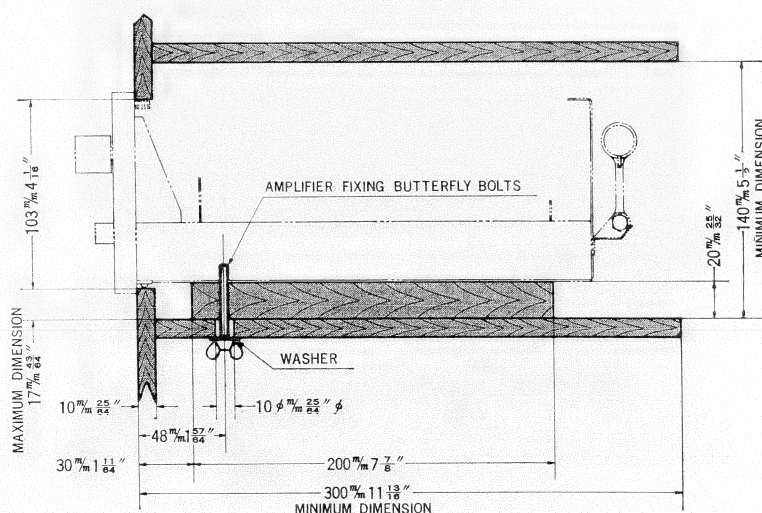
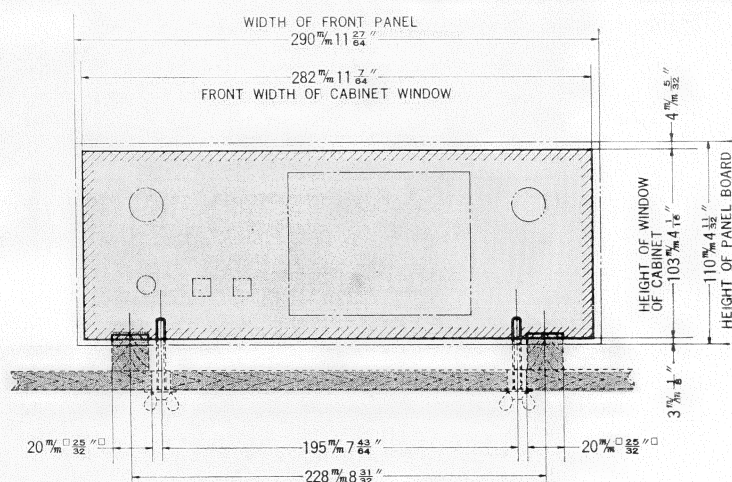
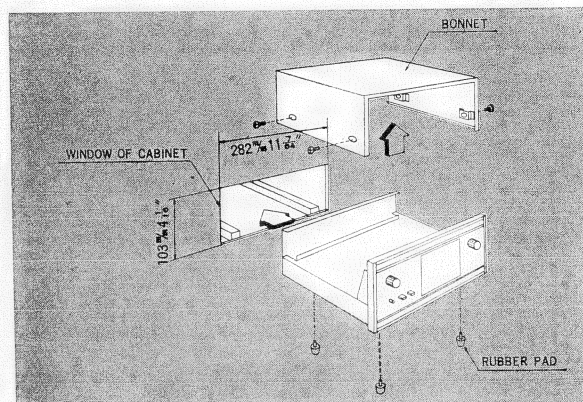


# CUSTOM MOUNTING

This diagram shows the size and dimensions required for mounting the TU-555 into a custommade cabinet.

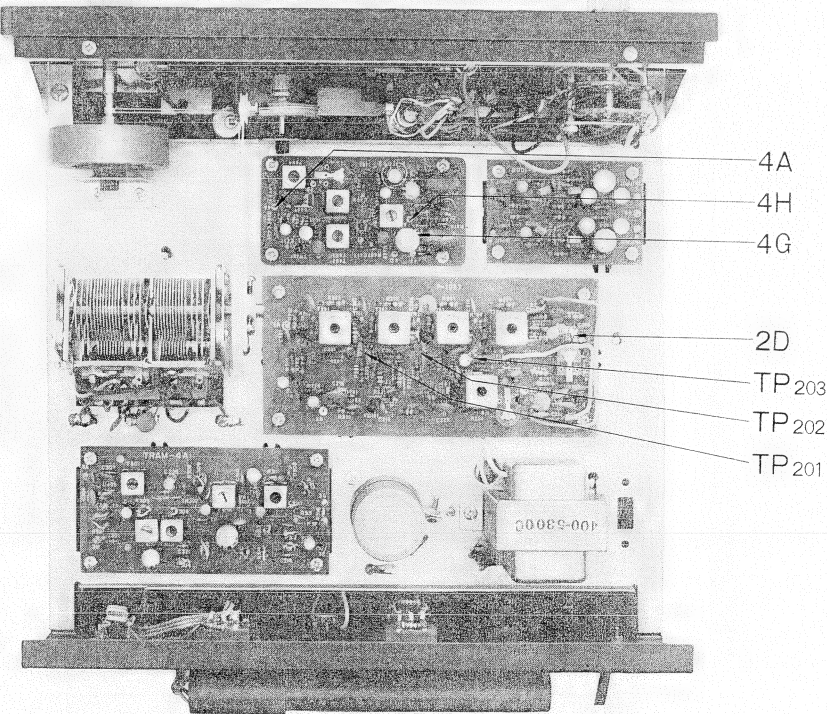
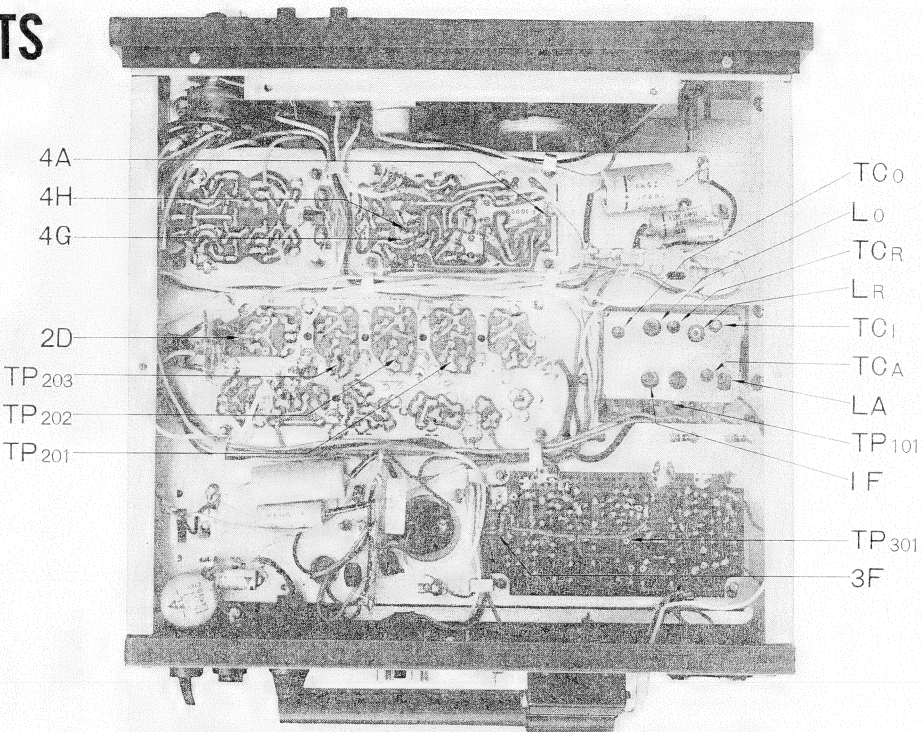
Note: That ample space is provided for complete air circulation above and below the tuner.

1. Be sure the cabinet window measures  $11\frac{7}{64}" \times 4\frac{1}{16}"$  as indicated in the diagram.
2. Place two boards on the floor of the cabinet as illustrated. Board should measure  $25\frac{5}{32}" \times 25\frac{5}{32}" \times 7\frac{7}{8}"$ .
3. Drill two holes ( $25\frac{5}{64}" \phi$ ) in the bottom of the cabinet at points corresponding to holes in the bottom of the tuner.
4. Remove the four rubber feet from the TU-555. (Retain for future use.)
5. Insert the TU-555 into the cabinet through the window until the edges of its front panel are flush with the cabinet, and secure both and cabinet with washers and butterfly bolts provided.



# ALIGNMENT

## TEST POINTS



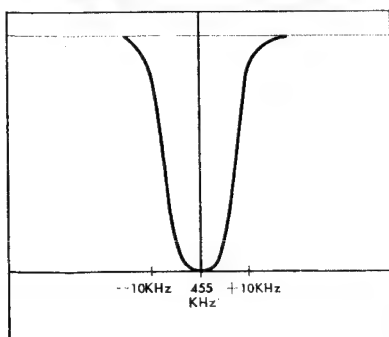
Alignment procedures are summarized in this section. Proper alignment requires use of precision instruments as given below:

1. Sweep generator; 2. Oscilloscope; 3. FM signal generator; 4. Multiplex stereo generator;
5. AC vacuum-tube voltmeter; 6. Audio signal generator; 7. AM signal generator

## AM TUNER ALIGNMENT PROCEDURE

| STEP | ALIGN               | GENERATOR   | FEED SIGNAL TO    | CONNECT                                | DIAL SETTING | ADJUST  | ADJUST FOR        |
|------|---------------------|---|-------------------|--|--------------|---|-------------------|
| 1.   | IF transformer      | 455 kHz<br>$\pm 30$ kHz<br>sweep generator              | Antenna terminals | Oscilloscope to TP <sub>3F</sub>       |              | I.F.T. (T <sub>302</sub> ~T <sub>305</sub> ) coil | Best IF wave form |
| 2.   | OSC. (1)            | AM signal generator<br>535 kHz<br>400 Hz 30% modulation | Antenna terminals | Oscilloscope & V.T.V.M. to output load | 535 kHz      | OSC. coil (T <sub>301</sub> )                     | Maximum           |
| 3.   | OSC. (2)            | 1600 kHz<br>400 Hz 30% modulation                       | Antenna terminals | Oscilloscope & V.T.V.M. to output load | 1600 kHz     | OSC. trimmer (TC <sub>302</sub> )                 | Maximum           |
| 4.   | Reiterate 2,3       |   |                   |  |              |   |                   |
| 5.   | Antenna circuit (1) | 600 kHz<br>400 Hz 30% modulation                        | Antenna terminals | Oscilloscope & V.T.V.M. to output load | 600 kHz      | Ferrite antenna coil (L <sub>301</sub> )          | Maximum           |
| 6.   | Antenna circuit (2) | 1400 kHz<br>400 Hz 30% modulation                       | Antenna terminals | Oscilloscope & V.T.V.M. to output load | 1400 kHz     | Trimmer (TC <sub>301</sub> )                      | Maximum           |
| 7.   | Reiterate 5,6       |   |                   |  |              |   |                   |

### AM IF CHARACTERISTIC

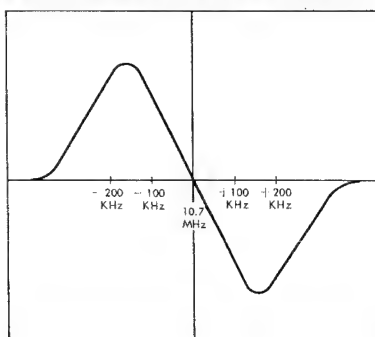


# ALIGNMENT

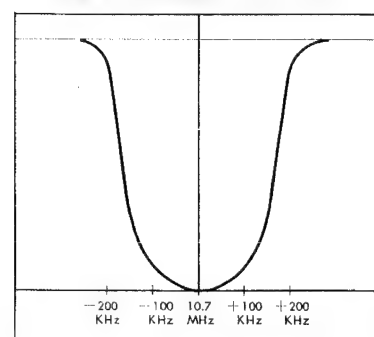
## FM TUNER ALIGNMENT PROCEDURE

| STEP | ALIGN                           | SIGNAL GENERATOR                                     | FEED SIGNAL TO    | CONNECT  | DIAL SETTING | ADJUST   | ADJUST FOR  |
|------|---------------------------------|--|-------------------|--|--------------|--|---|
| 1.   | IF transformer                  | 10.7 MHz<br>$\pm 200$ kHz<br>sweep generator         | TP <sub>101</sub> | Oscilloscope to TP <sub>203</sub> through 0.02 $\mu$ F ceramic capacitor |              | Primary and secondary of IF transformer (T <sub>103</sub> , T <sub>201</sub> , T <sub>202</sub> , T <sub>203</sub> ) | Best IF wave form<br>Place 0.02 $\mu$ F ceramic capacitor between collector and ground of TR <sub>204</sub> |
| 2.   | Discriminator                   | 10.7 MHz<br>$\pm 200$ kHz<br>sweep generator         | TP <sub>101</sub> | Oscilloscope to 2D through 0.02 $\mu$ F ceramic capacitor                |              | Primary and secondary of discriminator transformer (T <sub>204</sub> )   | S curve   |
| 3.   | Local oscillator (1)            | FM signal generator 88MHz, 400 Hz, 100% modulation   | Antenna terminals | Oscilloscope and V.T.V.M. to load terminal                               | 88 MHz       | Local oscillator coil (L <sub>0</sub> )  | Maximum   |
| 4.   | Local oscillator (2)            | FM signal generator 108 MHz, 400 Hz, 100% modulation | Antenna terminals | Oscilloscope and V.T.V.M. to load terminal                               | 108 MHz      | Local oscillator trimmer (TC <sub>0</sub> )  | Maximum   |
| 5.   | Reiterate 3, 4                  |  |                   |  |              |  |   |
| 6.   | High-frequency amp. circuit (1) | FM signal generator 90 MHz, 400 Hz, 100% modulation  | Antenna terminals | Oscilloscope and V.T.V.M. to load terminal                               | 90 MHz       | Antenna coil (L <sub>A</sub> , L <sub>R</sub> )  | Maximum   |
| 7.   | High-frequency amp. circuit (2) | FM signal generator 106 MHz, 400 Hz, 100% modulation | Antenna terminals | Oscilloscope and V.T.V.M. to load terminal                               | 106 MHz      | Trimmer (TC <sub>A</sub> , TC <sub>R</sub> )   | Maximum   |
| 8.   | Reiterate 6, 7                  |  |                   |  |              |  |   |

FM DISCRIMINATOR CHARACTERISTIC



FM IF CHARACTERISTIC



## FM MULTIPLEX ALIGNMENT PROCEDURE

| STEP | ALIGN                            | SIGNAL GENERATOR  | FEED SIGNAL TO    | CONNECT                                     | DIAL SETTING | ADJUST                               | ADJUST FOR   |
|------|----------------------------------|---|-------------------|---|--------------|--------------------------------------|--|
| 1.   | 67 kHz trap                      | Audio signal generator, 68 kHz 200 mV r.m.s.  | 4A                | V.T.V.M. to 4H                              |              | T <sub>404</sub>                     | Minimum  |
| 2.   | 19 kHz tuning coil               | 1) FM signal generator, 98 MHz, 60 dB<br>2) Stereo signal generator, 30% modulation of composite signal (L or R) including pilot signal | Antenna terminals | V.T.V.M. to 4G                              | 98 MHz       | L <sub>401</sub> , L <sub>402</sub>  | Maximum<br>Set VR <sub>401</sub> to max. clockwise position.   |
| 3.   | 38 kHz tuning coil               | 1) FM signal generator, 98 MHz, 60 dB<br>2) Stereo signal generator, 30% modulation of composite signal (L or R) including pilot signal | Antenna terminals | V.T.V.M. to 4G                              | 98 MHz       | T <sub>401</sub> , T <sub>402</sub>  | Maximum<br>Set VR <sub>401</sub> to max. clockwise position.   |
| 4.   | 38 kHz tuning coil Separation VR | 1) FM signal generator, 98 MHz, 60 dB<br>2) Stereo signal generator including pilot signal<br>Composite signal L-channel 30% modulation | Antenna terminals | Oscilloscope and V.T.V.M. to load terminals | 98 MHz       | T <sub>403</sub> , VR <sub>001</sub> | 1) Observe the wave from of the L channel output and adjust T <sub>401</sub> to maximum output.<br>2) Adjust the separation VR <sub>001</sub> for optimum separation |

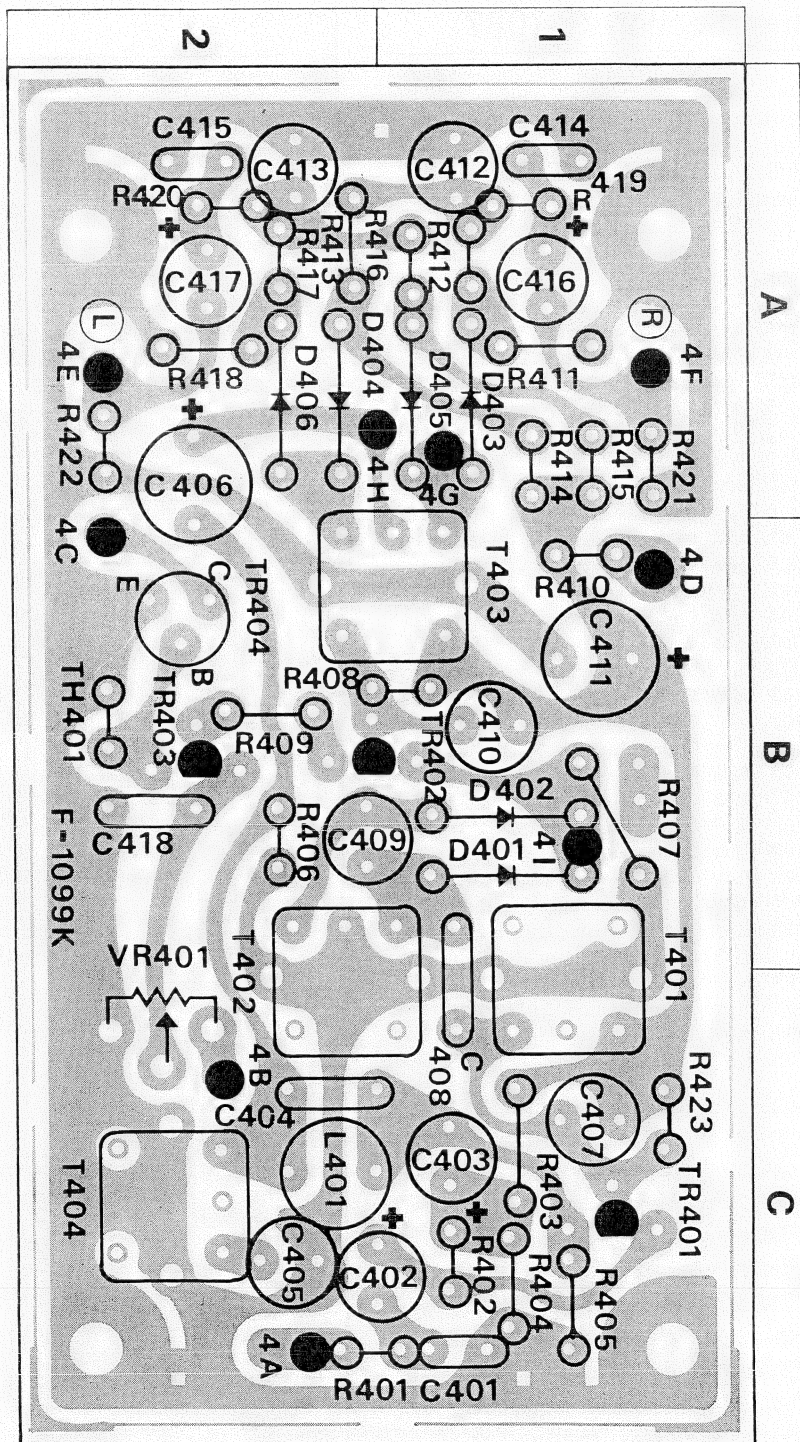
# PRINTED CIRCUIT SHEETS AND PARTS LIST

**X:** Parts No. **Y:** Parts Name **Z:** Position of Parts  
(Co-ordinate number and letter in printed circuit)

## FM Multiplex and Indicator <F-1099K>

| X     | Y  | Z      |
|-------|--|--------|
| R401  | 1k $\Omega$ $\pm 10\%$ $\frac{1}{4}$ W Carbon Resistor     | 2 C    |
| R402  | 22k $\Omega$ $\pm 10\%$ $\frac{1}{4}$ W Carbon Resistor    | 1 C    |
| R403  | 22k $\Omega$ $\pm 10\%$ $\frac{1}{4}$ W Carbon Resistor    | 1 C    |
| R404  | 8.2k $\Omega$ $\pm 10\%$ $\frac{1}{4}$ W Carbon Resistor   | 1 C    |
| R405  | 270 $\Omega$ $\pm 10\%$ $\frac{1}{4}$ W Carbon Resistor    | 1 C    |
| R406  | 3.3k $\Omega$ $\pm 10\%$ $\frac{1}{4}$ W Carbon Resistor   | 2 B    |
| R407  | 330k $\Omega$ $\pm 10\%$ $\frac{1}{4}$ W Carbon Resistor   | 1 B    |
| R408  | 47k $\Omega$ $\pm 10\%$ $\frac{1}{4}$ W Carbon Resistor    | 1 B    |
| R409  | 1.2k $\Omega$ $\pm 10\%$ $\frac{1}{4}$ W Carbon Resistor   | 2 B    |
| R410  | 47 $\Omega$ $\pm 10\%$ $\frac{1}{4}$ W Carbon Resistor     | 1 B    |
| R411  | 220k $\Omega$ $\pm 10\%$ $\frac{1}{4}$ W Carbon Resistor   | 1 A    |
| R412  | 10k $\Omega$ $\pm 10\%$ $\frac{1}{4}$ W Carbon Resistor    | 1 A    |
| R413  | 10k $\Omega$ $\pm 10\%$ $\frac{1}{4}$ W Carbon Resistor    | 2 A    |
| R414  | 220k $\Omega$ $\pm 10\%$ $\frac{1}{4}$ W Carbon Resistor   | 1 A    |
| R415  | 220k $\Omega$ $\pm 10\%$ $\frac{1}{4}$ W Carbon Resistor   | 1 A    |
| R416  | 10k $\Omega$ $\pm 10\%$ $\frac{1}{4}$ W Carbon Resistor    | 1 A    |
| R417  | 10k $\Omega$ $\pm 10\%$ $\frac{1}{4}$ W Carbon Resistor    | 2 A    |
| R418  | 220k $\Omega$ $\pm 10\%$ $\frac{1}{4}$ W Carbon Resistor   | 2 A    |
| R419  | 47k $\Omega$ $\pm 10\%$ $\frac{1}{4}$ W Carbon Resistor    | 1 A    |
| R420  | 47k $\Omega$ $\pm 10\%$ $\frac{1}{4}$ W Carbon Resistor    | 2 A    |
| R421  | 47k $\Omega$ $\pm 10\%$ $\frac{1}{4}$ W Carbon Resistor    | 1 A    |
| R422  | 47k $\Omega$ $\pm 10\%$ $\frac{1}{4}$ W Carbon Resistor    | 2 A    |
| TH401 | 33D26 (0320070)  | 2 B    |
| C401  | 100pF $\pm 10\%$ 50 WV Ceramic Capacitor                   | 1 C    |
| C402  | 10 $\mu$ F 10 WV Electrolytic Capacitor                    | 2 C    |
| C403  | 33 $\mu$ F 6.3 WV Electrolytic Capacitor                   | 1 C    |
| C404  | 1000pF $\pm 5\%$ 50 WV Mica Capacitor                      | 2 C    |
| C405  | 270pF $\pm 5\%$ 50 WV Styrol Capacitor                     | 2 C    |
| C406  | 10 $\mu$ F 10 WV Electrolytic Capacitor                    | 2 A    |
| C407  | 3300pF $\pm 5\%$ 50 WV Styrol Capacitor                    | 1 C    |
| C408  | 330pF $\pm 5\%$ 50 WV Mica Capacitor                       | 1 B, C |
| C409  | 3300pF $\pm 5\%$ 50 WV Styrol Capacitor                    | 1, 2 B |
| C410  | 1500pF $\pm 5\%$ 50 WV Styrol Capacitor                    | 1 B    |
| C411  | 100 $\mu$ F 16 WV Electrolytic Capacitor                   | 1 B    |
| C412  | 560pF $\pm 5\%$ 50 WV Styrol Capacitor                     | 1 A    |
| C413  | 560pF $\pm 5\%$ 50 WV Styrol Capacitor                     | 2 A    |
| C414  | 0.0033 $\mu$ F $\pm 10\%$ 50 WV Mylar Capacitor            | 1 A    |
| C415  | 0.0033 $\mu$ F $\pm 10\%$ 50 WV Mylar Capacitor            | 2 A    |
| C416  | 0.1 $\mu$ F 25 WV Alum. Electrolytic Capacitor             | 1 A    |
| C417  | 0.1 $\mu$ F 25 WV Alum. Electrolytic Capacitor             | 2 A    |
| C418  | 0.02 $\mu$ F $\pm 80\%$ $\pm 20\%$ 25 WV Ceramic Capacitor | 2 B    |
| TR401 | 2SC828T (0305270)  | 1 C    |
| TR402 | 2SC828T (0305270)  | 1, 2 B |
| TR403 | 2SC828T (0305270)  | 2 B    |
| TR404 | 2SD178R (0308140)  | 2 B    |
| D401  | IN34A (0310400)  | 1 B    |
| D402  | IN34A (0310400)  | 1 B    |

| X     | Y  | Z      |
|-------|--|--------|
| D403  | IN34A(Y) (0310401)                         | 1 A    |
| D404  | IN34A(Y) (0310401)                         | 2 A    |
| D405  | IN34A(Y) (0310401)                         | 1 A    |
| D406  | IN34A(Y) (0310401)                         | 2 A    |
| T401  | MPX Coil (4240300)                         | 1 B, C |
| T402  | MPX Coil (4240300)                         | 2 B, C |
| T403  | MPX Coil (4240310)                         | 1, 2 B |
| T404  | MPX Coil (4240400)                         | 2 C    |
| L401  | Ferri Inductor (4900031)                   | 2 C    |
| VR401 | 200k $\Omega$ (B) Indicator Adj. (1030350) | 2 C    |

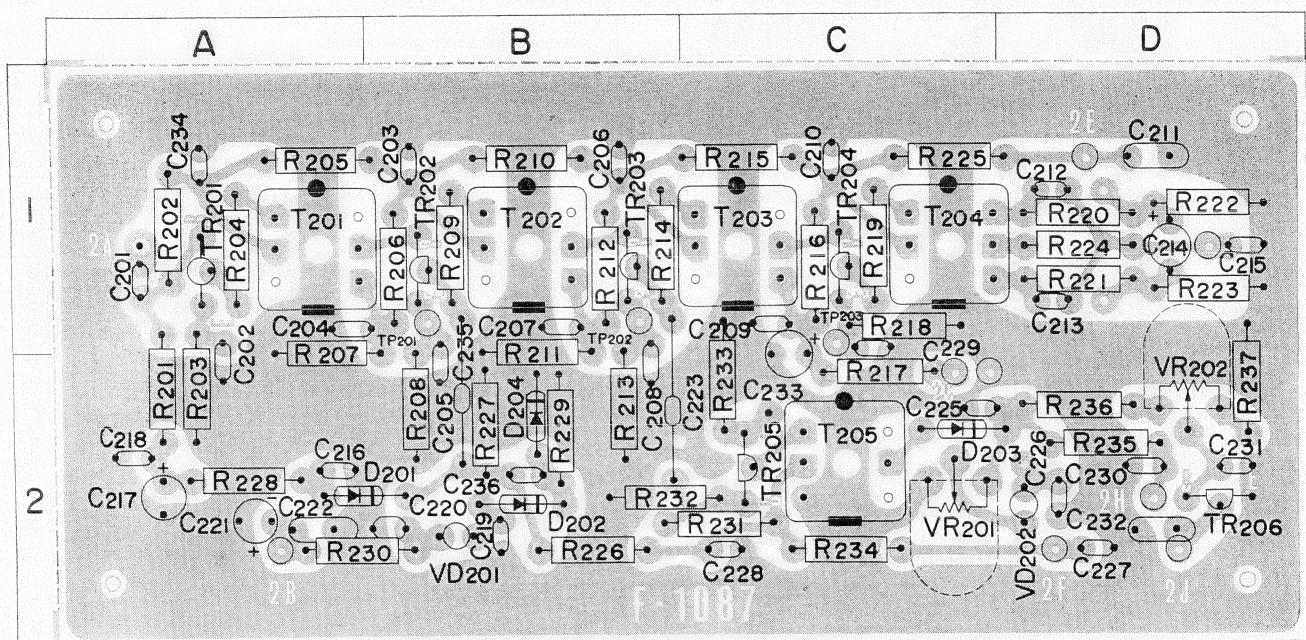


# PRINTED CIRCUIT SHEETS AND PARTS LIST

**X** : Parts No. **Y** : Parts Name **Z** : Position of Parts  
(Co-ordinate number and letter in printed circuit)

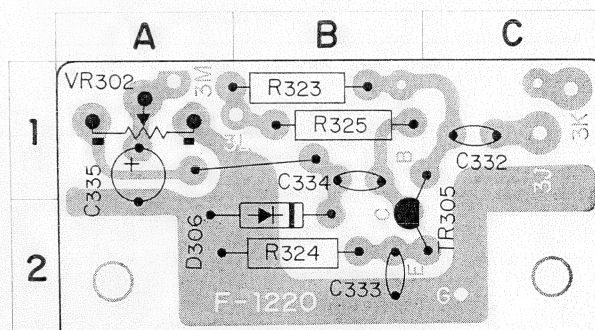
## FM IF Amplifier Section <F-1087>

| X    | Y  | Z   | X     | Y  | Z   |
|------|--|-----|-------|--|-----|
| R201 | 4.7k $\Omega$ $\pm$ 10% $\frac{1}{4}$ W Carbon Resistor  | 2 A | C212  | 220 pF $\pm$ 20% 50 WV Ceramic Capacitor                 | 1 D |
| R202 | 180k $\Omega$ $\pm$ 10% $\frac{1}{4}$ W Carbon Resistor  | 1 A | C213  | 220 pF $\pm$ 20% 50 WV Ceramic Capacitor                 | 1 D |
| R203 | 390 $\Omega$ $\pm$ 10% $\frac{1}{4}$ W Carbon Resistor   | 2 A | C214  | 10 $\mu$ F 10 WV <sup>RB</sup> Electrolytic Capacitor    | 1 D |
| R204 | 560 $\Omega$ $\pm$ 10% $\frac{1}{4}$ W Carbon Resistor   | 1 A | C215  | 47 pF $\pm$ 10% 50 WV Ceramic Capacitor                  | 1 D |
| R205 | 22 $\Omega$ $\pm$ 10% $\frac{1}{4}$ W Carbon Resistor    | 1 A | C216  | 100 pF $\pm$ 20% 50 WV Ceramic Capacitor                 | 2 A |
| R206 | 12k $\Omega$ $\pm$ 10% $\frac{1}{4}$ W Carbon Resistor   | 1 B | C217  | 3.3 $\mu$ F 25 WV <sup>RB</sup> Electrolytic Capacitor   | 2 A |
| R207 | 6.8k $\Omega$ $\pm$ 10% $\frac{1}{4}$ W Carbon Resistor  | 1 A | C218  | 0.02 $\mu$ F $\frac{+100}{-0}$ % 25 WV Ceramic Capacitor | 2 A |
| R208 | 1k $\Omega$ $\pm$ 10% $\frac{1}{4}$ W Carbon Resistor    | 2 B | C219  | 1000 pF $\pm$ 20% 50 WV Ceramic Capacitor                | 2 B |
| R209 | 820 $\Omega$ $\pm$ 10% $\frac{1}{4}$ W Carbon Resistor   | 1 B | C220  | 1000 pF $\pm$ 20% 50 WV Ceramic Capacitor                | 2 B |
| R210 | 22 $\Omega$ $\pm$ 10% $\frac{1}{4}$ W Carbon Resistor    | 1 B | C221  | 0.47 $\mu$ F 25 WV Aluminum Solid Capacitor              | 2 A |
| R211 | 6.8k $\Omega$ $\pm$ 10% $\frac{1}{4}$ W Carbon Resistor  | 2 B | C222  | 0.04 $\mu$ F $\frac{+100}{-0}$ % 25 WV Ceramic Capacitor | 2 A |
| R212 | 10k $\Omega$ $\pm$ 10% $\frac{1}{4}$ W Carbon Resistor   | 1 B | C223  | 2.2 $\mu$ F $\pm$ 0.5pF 50 WV Ceramic Capacitor          | 2 B |
| R213 | 1k $\Omega$ $\pm$ 10% $\frac{1}{4}$ W Carbon Resistor    | 2 B | C224  | 0.02 $\mu$ F $\frac{+100}{-0}$ % 25 WV Ceramic Capacitor | 2 C |
| R214 | 680 $\Omega$ $\pm$ 10% $\frac{1}{4}$ W Carbon Resistor   | 1 B | C225  | 0.01 $\mu$ F $\frac{+100}{-0}$ % 25 WV Ceramic Capacitor | 2 D |
| R215 | 22 $\Omega$ $\pm$ 10% $\frac{1}{4}$ W Carbon Resistor    | 1 C | C226  | 0.02 $\mu$ F $\frac{+100}{-0}$ % 25 WV Ceramic Capacitor | 2 D |
| R216 | 10k $\Omega$ $\pm$ 10% $\frac{1}{4}$ W Carbon Resistor   | 1 C | C227  | 0.02 $\mu$ F $\frac{+100}{-0}$ % 25 WV Ceramic Capacitor | 2 D |
| R217 | 6.8k $\Omega$ $\pm$ 10% $\frac{1}{4}$ W Carbon Resistor  | 2 C | C228  | 0.02 $\mu$ F $\frac{+100}{-0}$ % 25 WV Ceramic Capacitor | 2 C |
| R218 | 1k $\Omega$ $\pm$ 10% $\frac{1}{4}$ W Carbon Resistor    | 1 C | C229  | 0.02 $\mu$ F $\frac{+100}{-0}$ % 25 WV Ceramic Capacitor | 1 C |
| R219 | 680 $\Omega$ $\pm$ 10% $\frac{1}{4}$ W Carbon Resistor   | 1 C | C230  | 0.02 $\mu$ F $\frac{+100}{-0}$ % 25 WV Ceramic Capacitor | 2 D |
| R220 | 1.5k $\Omega$ $\pm$ 10% $\frac{1}{4}$ W Carbon Resistor  | 1 D | C231  | 0.02 $\mu$ F $\frac{+100}{-0}$ % 25 WV Ceramic Capacitor | 2 D |
| R221 | 1k $\Omega$ $\pm$ 10% $\frac{1}{4}$ W Carbon Resistor    | 1 D | C232  | 0.04 $\mu$ F $\frac{+100}{-0}$ % 25 WV Ceramic Capacitor | 2 D |
| R222 | 10k $\Omega$ $\pm$ 10% $\frac{1}{4}$ W Carbon Resistor   | 1 D | C233  | 1 $\mu$ F 50 WV <sup>RB</sup> Electrolytic Capacitor     | 2 C |
| R223 | 10k $\Omega$ $\pm$ 10% $\frac{1}{4}$ W Carbon Resistor   | 1 D | C234  | 0.02 $\mu$ F $\frac{+100}{-0}$ % 25 WV Ceramic Capacitor | 2 B |
| R224 | 68 $\Omega$ $\pm$ 10% $\frac{1}{4}$ W Carbon Resistor    | 1 D | C235  | 4.7 pF $\pm$ 20% 50 WV Ceramic Capacitor                 | 2 B |
| R225 | 22 $\Omega$ $\pm$ 10% $\frac{1}{4}$ W Carbon Resistor    | 1 C | C236  | 47 pF $\pm$ 10% 50 WV Ceramic Capacitor                  | 2 B |
| R226 | 100k $\Omega$ $\pm$ 10% $\frac{1}{4}$ W Carbon Resistor  | 2 B | TR201 | 2SC829(C) (030546-1)                                     | 1 A |
| R227 | 12k $\Omega$ $\pm$ 10% $\frac{1}{4}$ W Carbon Resistor   | 2 B | TR202 | 2SC829(B) (030546)                                       | 1 B |
| R228 | 1k $\Omega$ $\pm$ 10% $\frac{1}{4}$ W Carbon Resistor    | 2 A | TR203 | 2SC829(B) (030546)                                       | 1 B |
| R229 | 22k $\Omega$ $\pm$ 10% $\frac{1}{4}$ W Carbon Resistor   | 2 B | TR204 | 2SC829(B) (030546)                                       | 1 C |
| R230 | 39k $\Omega$ $\pm$ 10% $\frac{1}{4}$ W Carbon Resistor   | 2 A | TR205 | 2SC829(C) (030546-1)                                     | 2 C |
| R231 | 22k $\Omega$ $\pm$ 10% $\frac{1}{4}$ W Carbon Resistor   | 2 C | TR206 | 2SC828(T) (030527)                                       | 2 D |
| R232 | 10k $\Omega$ $\pm$ 10% $\frac{1}{4}$ W Carbon Resistor   | 2 B | T201  | FM IFT (423532)  | 1 A |
| R233 | 1k $\Omega$ $\pm$ 10% $\frac{1}{4}$ W Carbon Resistor    | 2 C | T202  | FM IFT (423533)  | 1 B |
| R234 | 22 $\Omega$ $\pm$ 10% $\frac{1}{4}$ W Carbon Resistor    | 2 C | T203  | FM IFT (423533)  | 1 C |
| R235 | 47k $\Omega$ $\pm$ 10% $\frac{1}{4}$ W Carbon Resistor   | 2 D | T204  | FM Discriminator Trans (423518)                          | 1 C |
| R236 | 39k $\Omega$ $\pm$ 10% $\frac{1}{4}$ W Carbon Resistor   | 2 D | T205  | FM Meter Trans (423529)                                  | 2 C |
| R237 | 12k $\Omega$ $\pm$ 10% $\frac{1}{4}$ W Carbon Resistor   | 2 D | D201  | IN60 (031033)  | 2 A |
| C201 | 1000 pF $\pm$ 10% 50 WV Ceramic Capacitor                | 1 A | D202  | IN60 (031033)  | 2 B |
| C202 | 0.02 $\mu$ F $\frac{+100}{-0}$ % 25 WV Ceramic Capacitor | 2 A | D203  | IN60 (031033)  | 2 C |
| C203 | 0.02 $\mu$ F $\frac{+100}{-0}$ % 25 WV Ceramic Capacitor | 1 B | D204  | IN60 (031033)  |     |
| C204 | 0.02 $\mu$ F $\frac{+100}{-0}$ % 25 WV Ceramic Capacitor | 1 A | VD201 | DS410 (031046)   | 2 B |
| C205 | 0.02 $\mu$ F $\frac{+100}{-0}$ % 25 WV Ceramic Capacitor | 2 B | VD202 | DS410 (031046)   | 2 C |
| C206 | 0.02 $\mu$ F $\frac{+100}{-0}$ % 25 WV Ceramic Capacitor | 1 B | VR201 | Meter Control 50k $\Omega$ (B) (103020)                  | 2 C |
| C207 | 0.02 $\mu$ F $\frac{+100}{-0}$ % 25 WV Ceramic Capacitor | 1 B | VR202 | Muting Control 200k $\Omega$ (B) (103035)                | 2 D |
| C208 | 0.02 $\mu$ F $\frac{+100}{-0}$ % 25 WV Ceramic Capacitor | 2 B |       |  |     |
| C209 | 0.02 $\mu$ F $\frac{+100}{-0}$ % 25 WV Ceramic Capacitor | 1 C |       |  |     |
| C210 | 0.02 $\mu$ F $\frac{+100}{-0}$ % 25 WV Ceramic Capacitor | 1 C |       |  |     |
| C211 | 0.04 $\mu$ F $\frac{+100}{-0}$ % 25 WV Ceramic Capacitor | 1 D |       |  |     |



Meter <F-1220>

| X     | Y   | Z   |
|-------|---|-----|
| R323  | 680k $\Omega$ $\pm 10\%$ $\frac{1}{4}$ W Carbon Resistor  | 1 B |
| R324  | 2.2k $\Omega$ $\pm 10\%$ $\frac{1}{4}$ W Carbon Resistor  | 2 B |
| R325  | 4.7k $\Omega$ $\pm 10\%$ $\frac{1}{4}$ W Carbon Resistor  | 1 B |
| VR302 | V101KR-B 50k $\Omega$ (103049,-1)                         | 1 A |
| C332  | 100pF $\pm 10\%$ 25WV Ceramic Capacitor                   | 1 C |
| C333  | 0.02 $\mu$ F $\pm \frac{80}{20}\%$ 25WV Ceramic Capacitor | 2 B |
| C334  | 0.68 $\mu$ F 25WV Aluminum Solid Capacitor                | 1 B |
| C335  | 1 $\mu$ F 50WV Electrolytic Capacitor                     | 1 A |
| TR305 | 2SC460 B, C (030535,-1)                                   | 2 B |
| D306  | 1N60 (031033)   | 2 B |

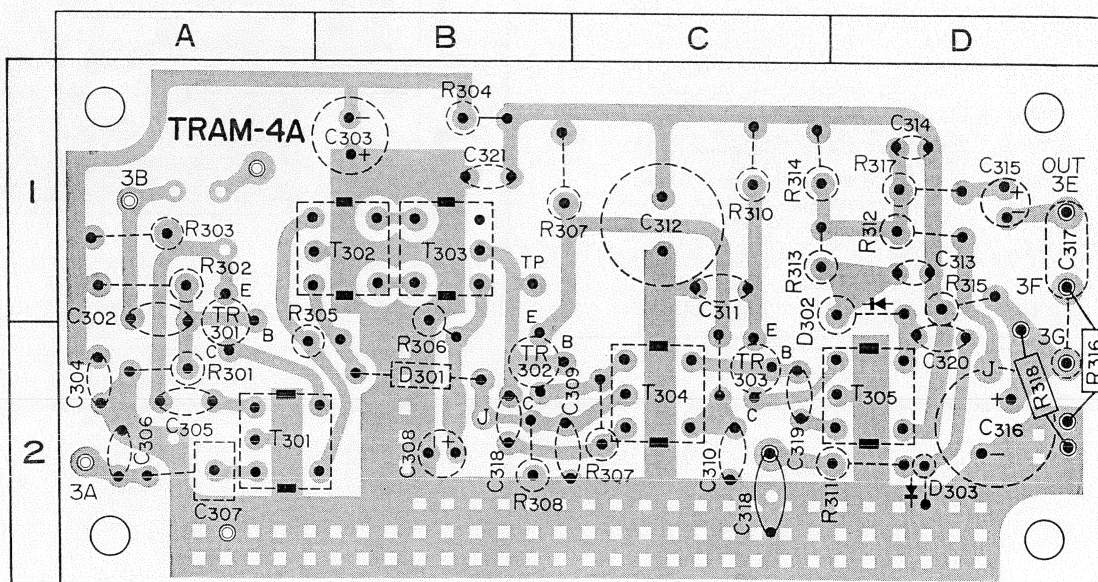


# PRINTED CIRCUIT SHEETS AND PARTS LIST

## AM IF Amplifier Section <TRAM-4A>

| X    | Y  | Z   |
|------|--|-----|
| R301 | 82k $\Omega$ $\pm 10\%$ $\frac{1}{4}$ W Carbon Resistor  | 2 A |
| R302 | 4.7k $\Omega$ $\pm 10\%$ $\frac{1}{4}$ W Carbon Resistor | 1 A |
| R303 | 1.8k $\Omega$ $\pm 10\%$ $\frac{1}{4}$ W Carbon Resistor | 1 A |
| R304 | 120 $\Omega$ $\pm 10\%$ $\frac{1}{4}$ W Carbon Resistor  | 1 B |
| R305 | 68k $\Omega$ $\pm 10\%$ $\frac{1}{4}$ W Carbon Resistor  | 2 A |
| R306 | 68k $\Omega$ $\pm 10\%$ $\frac{1}{4}$ W Carbon Resistor  | 1 B |
| R307 | 56k $\Omega$ $\pm 10\%$ $\frac{1}{4}$ W Carbon Resistor  | 2 C |
| R308 | 2.2k $\Omega$ $\pm 10\%$ $\frac{1}{4}$ W Carbon Resistor | 2 B |
| R309 | 1k $\Omega$ $\pm 10\%$ $\frac{1}{4}$ W Carbon Resistor   | 1 B |
| R310 | 330 $\Omega$ $\pm 10\%$ $\frac{1}{4}$ W Carbon Resistor  | 1 C |
| R312 | 5.6k $\Omega$ $\pm 10\%$ $\frac{1}{4}$ W Carbon Resistor | 1 D |
| R313 | 1k $\Omega$ $\pm 10\%$ $\frac{1}{4}$ W Carbon Resistor   | 1 C |
| R314 | 4.7k $\Omega$ $\pm 10\%$ $\frac{1}{4}$ W Carbon Resistor | 1 C |
| R315 | 470 $\Omega$ $\pm 10\%$ $\frac{1}{4}$ W Carbon Resistor  | 1 D |
| R316 | 4.7k $\Omega$ $\pm 10\%$ $\frac{1}{4}$ W Carbon Resistor | 2 D |
| R317 | 27k $\Omega$ $\pm 10\%$ $\frac{1}{4}$ W Carbon Resistor  | 2 D |
| R029 | 4.7k $\Omega$ $\pm 10\%$ $\frac{1}{4}$ W Carbon Resistor | 1 B |
| C302 | 0.02 $\mu$ F $\pm 100\%$ 50 WV Ceramic Capacitor         | 1 A |
| C303 | 47 $\mu$ F 10 WV <sup>RB</sup> Electrolytic Capacitor    | 1 B |
| C304 | 0.02 $\mu$ F $\pm 100\%$ 50 WV Ceramic Capacitor         | 2 A |
| C305 | 0.005 $\mu$ F $\pm 20\%$ 50 WV Ceramic Capacitor         | 2 A |
| C306 | 15 pF $\pm 10\%$ 50 WV Ceramic Capacitor                 | 2 A |
| C307 | 430 pF $\pm 10\%$ 25 WV Mica Capacitor                   | 2 A |
| C308 | 1 $\mu$ F 50 WV Ceramic Capacitor                        | 2 B |

| X     | Y  | Z   |
|-------|--|-----|
| C309  | 0.02 $\mu$ F $\pm 100\%$ 50 WV Ceramic Capacitor       | 2 B |
| C310  | 0.02 $\mu$ F $\pm 100\%$ 50 WV Ceramic Capacitor       | 2 C |
| C311  | 0.02 $\mu$ F $\pm 100\%$ 50 WV Ceramic Capacitor       | 1 C |
| C312  | 220 $\mu$ F 10 WV <sup>RB</sup> Electrolytic Capacitor | 1 C |
| C313  | 0.01 $\mu$ F $\pm 10\%$ 50 WV Mylar Capacitor          | 1 D |
| C314  | 0.01 $\mu$ F $\pm 10\%$ 50 WV Mylar Capacitor          | 1 D |
| C315  | 0.47 $\mu$ F 25 WV Aluminum Solid Capacitor            | 1 D |
| C317  | 0.1 $\mu$ F $\pm 10\%$ 50 WV Mylar Capacitor           | 1 D |
| C318  | 2 pF $\pm 0.5$ pF 50 WV Ceramic Capacitor              | 2 C |
| C319  | 1 pF $\pm 0.5$ pF 50 WV Ceramic Capacitor              | 2 C |
| C321  | 0.02 $\mu$ F $\pm 100\%$ 50 WV Ceramic Capacitor       | 1 B |
| TR301 | 2SA102 (030004)  | 2 A |
| TR302 | 2SA101(X) (030005)                                     | 2 B |
| TR303 | 2SA101(Y) (030005-1)                                   | 2 C |
| T301  | AM Local Oscillator Coil (422006)                      | 2 A |
| T302  | AM IFT (423007)  | 1 B |
| T303  | AM IFT (423008)  | 1 B |
| T304  | AM IFT (423009)  | 2 C |
| T305  | AM IFT (423010)  | 2 D |
| D301  | IN60 (031033)  | 2 B |
| D302  | IN60 (031033)  | 1 D |

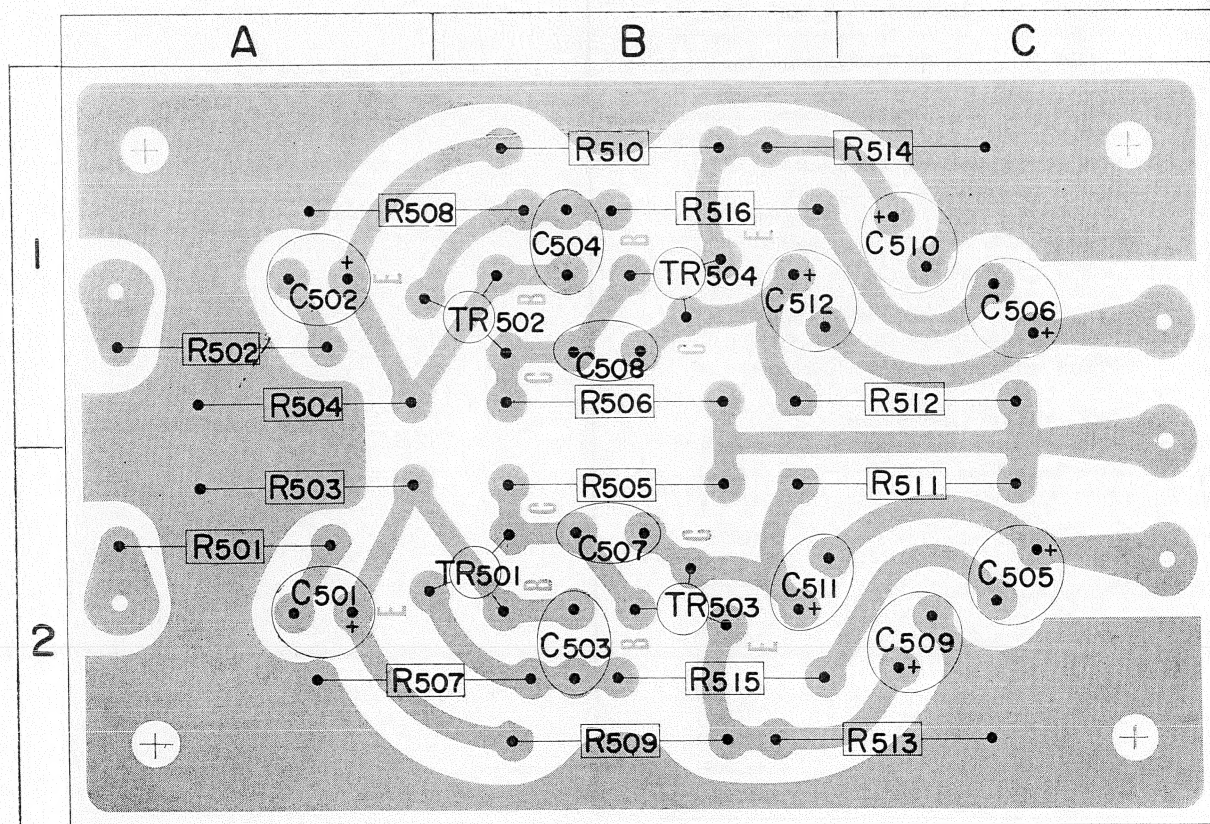


**X:** Parts No. **Y:** Parts Name **Z:** Position of Parts  
(Co-ordinate unumber and letter in printed circuit)

## Audio Amplifier Section <F-1086>

| X    | Y   | Z   |
|------|---|-----|
| R501 | 1k $\Omega$ $\pm$ 10% $\frac{1}{4}$ W Carbon Resistor   | 2 A |
| R502 | 1k $\Omega$ $\pm$ 10% $\frac{1}{4}$ W Carbon Resistor   | 1 A |
| R503 | 270k $\Omega$ $\pm$ 10% $\frac{1}{4}$ W Carbon Resistor | 2 A |
| R504 | 270k $\Omega$ $\pm$ 10% $\frac{1}{4}$ W Carbon Resistor | 1 A |
| R505 | 100k $\Omega$ $\pm$ 10% $\frac{1}{4}$ W Carbon Resistor | 2 B |
| R506 | 100k $\Omega$ $\pm$ 10% $\frac{1}{4}$ W Carbon Resistor | 1 B |
| R507 | 1k $\Omega$ $\pm$ 10% $\frac{1}{4}$ W Carbon Resistor   | 2 A |
| R508 | 1k $\Omega$ $\pm$ 10% $\frac{1}{4}$ W Carbon Resistor   | 1 A |
| R509 | 150k $\Omega$ $\pm$ 10% $\frac{1}{4}$ W Carbon Resistor | 2 B |
| R510 | 150k $\Omega$ $\pm$ 10% $\frac{1}{4}$ W Carbon Resistor | 1 B |
| R511 | 5.6k $\Omega$ $\pm$ 10% $\frac{1}{4}$ W Carbon Resistor | 2 C |
| R512 | 5.6k $\Omega$ $\pm$ 10% $\frac{1}{4}$ W Carbon Resistor | 1 C |
| R513 | 820 $\Omega$ $\pm$ 10% $\frac{1}{4}$ W Carbon Resistor  | 2 C |
| R514 | 820 $\Omega$ $\pm$ 10% $\frac{1}{4}$ W Carbon Resistor  | 1 C |
| R515 | 33k $\Omega$ $\pm$ 10% $\frac{1}{4}$ W Carbon Resistor  | 2 B |
| R516 | 33k $\Omega$ $\pm$ 10% $\frac{1}{4}$ W Carbon Resistor  | 1 B |
| C501 | 1 $\mu$ F 50 WV <sup>RB</sup> Electrolytic Capacitor    | 2 A |
| C502 | 1 $\mu$ F 50 WV <sup>RB</sup> Electrolytic Capacitor    | 1 A |

| X     | Y   | Z   |
|-------|---|-----|
| C503  | 100 pF $\pm$ 20% 25 WV Ceramic Capacitor                | 2 B |
| C504  | 100 pF $\pm$ 20% 25 WV Ceramic Capacitor                | 1 B |
| C505  | 10 $\mu$ F 25 WV <sup>RB</sup> Electrolytic Capacitor   | 2 C |
| C506  | 10 $\mu$ F 25 WV <sup>RB</sup> Electrolytic Capacitor   | 1 C |
| C507  | 100 pF $\pm$ 20% 25 WV Ceramic Capacitor                | 2 B |
| C508  | 100 pF $\pm$ 20% 25 WV Ceramic Capacitor                | 1 C |
| C509  | 100 $\mu$ F 6.3 WV <sup>RB</sup> Electrolytic Capacitor | 2 C |
| C510  | 100 $\mu$ F 6.3 WV <sup>RB</sup> Electrolytic Capacitor | 1 C |
| C511  | 10 $\mu$ F 25 WV <sup>RB</sup> Electrolytic Capacitor   | 2 B |
| C512  | 10 $\mu$ F 25 WV <sup>RB</sup> Electrolytic Capacitor   | 1 B |
| TR501 | 2SC871(D) (030547)                                      | 2 A |
| TR502 | 2SC871(D) (030547)                                      | 1 A |
| TR503 | 2SC458(B) or (C) (030511-1 or 2)                        | 2 B |
| TR504 | 2SC458(B) or (C) (030511-1 or 2)                        | 1 B |



# OTHER PARTS AND THEIR POSITION ON CHASSIS

X: Parts No. Y: Parts Name

## Others

| X       | Y  |
|---------|--|
| R001    | 470Ω ±10% 3W Cement Resistor               |
| R002    | 330Ω ±10% 1/2W Carbon Resistor             |
| R004    | 2.7kΩ ±10% 1/4W Carbon Resistor            |
| R005    | 1.8kΩ ±10% 1/4W Carbon Resistor            |
| R007    | 180kΩ ±10% 1/4W Carbon Resistor            |
| R008    | 180kΩ ±10% 1/4W Carbon Resistor            |
| R009    | 1kΩ ±10% 1/4W Carbon Resistor              |
| R010    | 100kΩ ±10% 1/4W Carbon Resistor            |
| R012    | 680Ω ±10% 1/4W Carbon Resistor             |
| R013    | 68Ω ±10% 1/4W Carbon Resistor              |
| R014    | 47kΩ ±10% 1/4W Carbon Resistor             |
| R015    | 12kΩ ±10% 1/4W Carbon Resistor             |
| R016    | 47kΩ ±10% 1/4W Carbon Resistor             |
| R017    | 12kΩ ±10% 1/4W Carbon Resistor             |
| R018    | 1MΩ ±10% 1/4W Carbon Resistor              |
| R019    | 10kΩ ±10% 1/4W Carbon Resistor             |
| R021    | 4.7kΩ ±10% 1/4W Carbon Resistor            |
| R431    | 47kΩ ±10% 1/4W Carbon Resistor             |
| R432    | 47kΩ ±10% 1/4W Carbon Resistor             |
| R433    | 6.8kΩ ±10% 1/4W Carbon Resistor            |
| C001    | 2000μF 35 WV Lug Electrolytic Capacitor    |
| C002    | 470μF 16 WV RA Electrolytic Capacitor      |
| C003    | 33μF 16 WV RA Electrolytic Capacitor       |
| C004    | 220μF 25 WV RA Electrolytic Capacitor      |
| C005    | 100μF 16 WV RA Electrolytic Capacitor      |
| C006    | 220μF 10 WV RA Electrolytic Capacitor      |
| C007    | 0.033μF ±20% 600WV Oil Capacitor           |
| C008    | 0.0047μF ±20% 600WV Oil Capacitor          |
| C009    | 0.0012μF ±10% 50 WV Mylar Capacitor        |
| C010    | 0.0022μF ±10% 50 WV Mylar Capacitor        |
| C011    | 0.02μF $\pm 100\%$ 50 WV Ceramic Capacitor |
| C012    | 0.02μF $\pm 100\%$ 50 WV Ceramic Capacitor |
| C013    | 0.22μF ±10% 50 WV Mylar Capacitor          |
| C014    | 0.0033μF ±10% 50 WV Mylar Capacitor        |
| T101    | 300Ω : 75Ω FM Antenna Trans                |
| L001    | 3.5μH High-frequency Choke (429001-1)      |
| L301    | Ferrite Bar Antenna (420010)               |
| L302    | 3.5μH Choke Coil (429001-1)                |
| T001    | Power Trans (400030-1)                     |
| M001    | 200μA 1.2kΩ Tuning Meter (090025)          |
| VR001   | 10kΩ(B) 16φ Separation Control (100502)    |
| S1      | Antenna Switch (111004)                    |
| S2(a~d) | Y-2-4-3 Rotary Switch (110209)             |
| S3      | Noise Canceler Switch (117006)             |
| S4      | Power Switch (113009)                      |
| S5      | Output Level adjusting Switch (111004)     |

| X     | Y                                    |
|-------|--------------------------------------|
| S6    | Muting Switch (117006)               |
| S7    | Voltage Selector Switch (111008)     |
| F001  | Fuse Holder (1-ampere fuse) (230002) |
| CO001 | AC Outlet (245001)                   |
| D001  | SW-05-01 Si Diode (031051)           |
| D002  | SW-05-01 Si Diode (031051)           |
| D003  | SM-150-01 Si Diode (031028)          |
| ZD001 | ZR212 Zener Diode (031041)           |

